ABSTRACT

A system capable of performing radiography using a beam of electrons. Diffuser means receive a beam of electrons and diffuse the electrons before they enter first matching quadrupoles where the diffused electrons are focused prior to the diffused electrons entering an object. First imaging quadrupoles receive the focused diffused electrons after the focused diffused electrons have been scattered by the object for focusing the scattered electrons. Collimator means receive the scattered electrons and remove scattered electrons that have scattered to large angles. Second imaging quadrupoles receive the collimated scattered electrons and refocus the collimated scattered electrons and map the focused collimated scattered electrons to transverse locations on an image plane representative of the electrons' positions in the object.